



NRCS Southern Conference

Soil Taxonomy in Haiti

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Content

- 1. Overview of Haiti morphology**
- 2. View of some landscapes**
- 3. View of flat lands**
- 4. General soil maps and studies**
- 5. Conclusion**



1. Overview of Haiti morphology





1. Overview (cont.)

- **Haiti: mountainous western third of the Island of Hispaniola 27,750 sq. Km**
- **Approximately 63% of all lands have slopes greater than 20%, and only 29% have slopes of less than 10%.**
- **Less than 20% of the land under cultivation is well appropriate for agriculture**
- **National agriculture produces about 50% of foods for the population**



- Predominantly calcareous parental materials





1. Overview (cont.)

**Some
basaltic
materials in
several
areas of the
country**





2. View of landscapes (La Selle)





2. Landscape (Limbé)





2. Landscapes (Kenscoff, Savane désolée)





2. Landscapes (Ennery-Quinte)





2. Landscape (Sedren)





2. Another landscape (South)





3. Flat lands (Central Plateau)





3. Flat lands at Vital (North West)





3. Flat lands (Artibonite valley)





4. What do we know about Haiti soils?

General Soil Surveys

- Several soil fertility studies for small irrigated areas: 1995 up to date (MARNDR/PPI)
- Soil fertility studies at the Artibonite Valley – Field experiments: 2002-2012 (MARNDR/KR2/FAMV)
- Soil Fertility Study in four sites: 2010-2011 (MARNDR/USAID: WINNER Project)
- Soil fertility and plant nutrition at the South Depart. 2009-2010 (UNEP and Columbia U. Earth Institute)



4. General soil surveys in Haiti (cont.)

- **Soil survey at the Artibonite Valley, 1926 (MARNDR/FAO) - For rice production**
- **Technical and Economical report on the development of the Artibonite Valley, 1950 (FAO)**
- **The « Cul-de-Sac Plain : Irrigation, Drainage and Flood Control Development , 1956 (MARNDR)**
- **Soil survey and water inventory at Gonaïves Plain and North West, ONU/FAO/HAI-3, 1969.**



4. General soil surveys in Haiti (cont.)

- **Northern Haiti: Land, Land Use and Settlement” “A Geographical Investigation of the North Department, 1963 (MARNDR/University of Toronto)**
- **Soil survey at Limbé watershed : Project Mountain Agriculture (1979-1980 : MARNDR/FAO)**
- **Soil survey of Acul-Dubreuil watershed: 1980 (PDAI/ MARNDR /USAID).**



4. General soil surveys in Haiti (cont.)

- **Soil survey conducted by OEA (American State Organization) – Integrated Technical Assistance in 1972**
- **Soil survey commended by Planning Ministry (MPCE) and conducted by BDPA in 1982.**
- **Haiti soil subborder map (USDA, 2010)**
- **Soil Survey Pilot Project (MARNDR, FAMV, USDA, NRCS, USAID)**





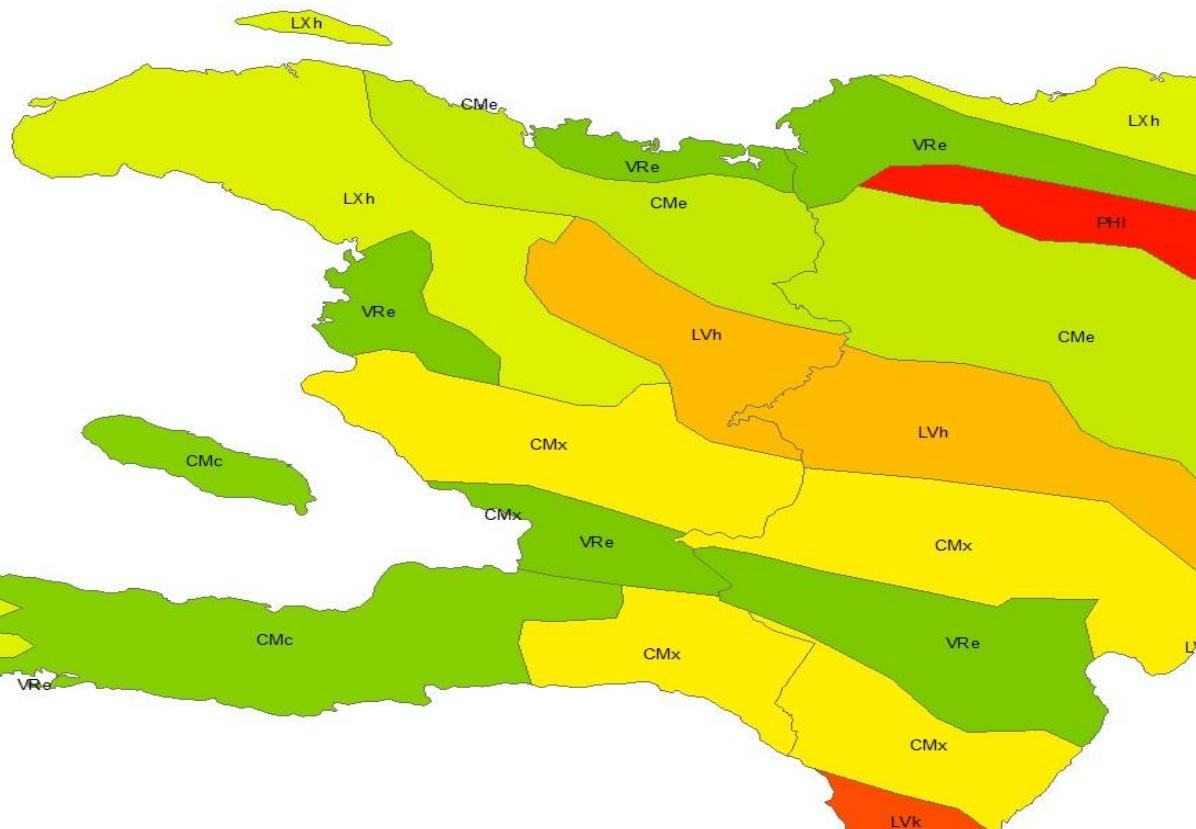
4. Soil survey conducted by OEA (Integrated Technical Assistant , 1972)

- This study contains much more information than the previous ones that were done at a regional scale- limited applications
- Covers the entire country, but conducted at very small scale
- Very limited data on soil chemical properties
- Recommendations on soil potentialities.



4. Soil map (BDPA SCETAGRI/MPCE, 1982)

CMc	Calcaric Cambisols
CMe	Eutric Cambisols
CMx	Chromic Cambisols
LVh	Haplic Luvisols
LXh	Haplic Lixisols
LXh	Haplic Lixisols
VRe	Eutric Vertisols



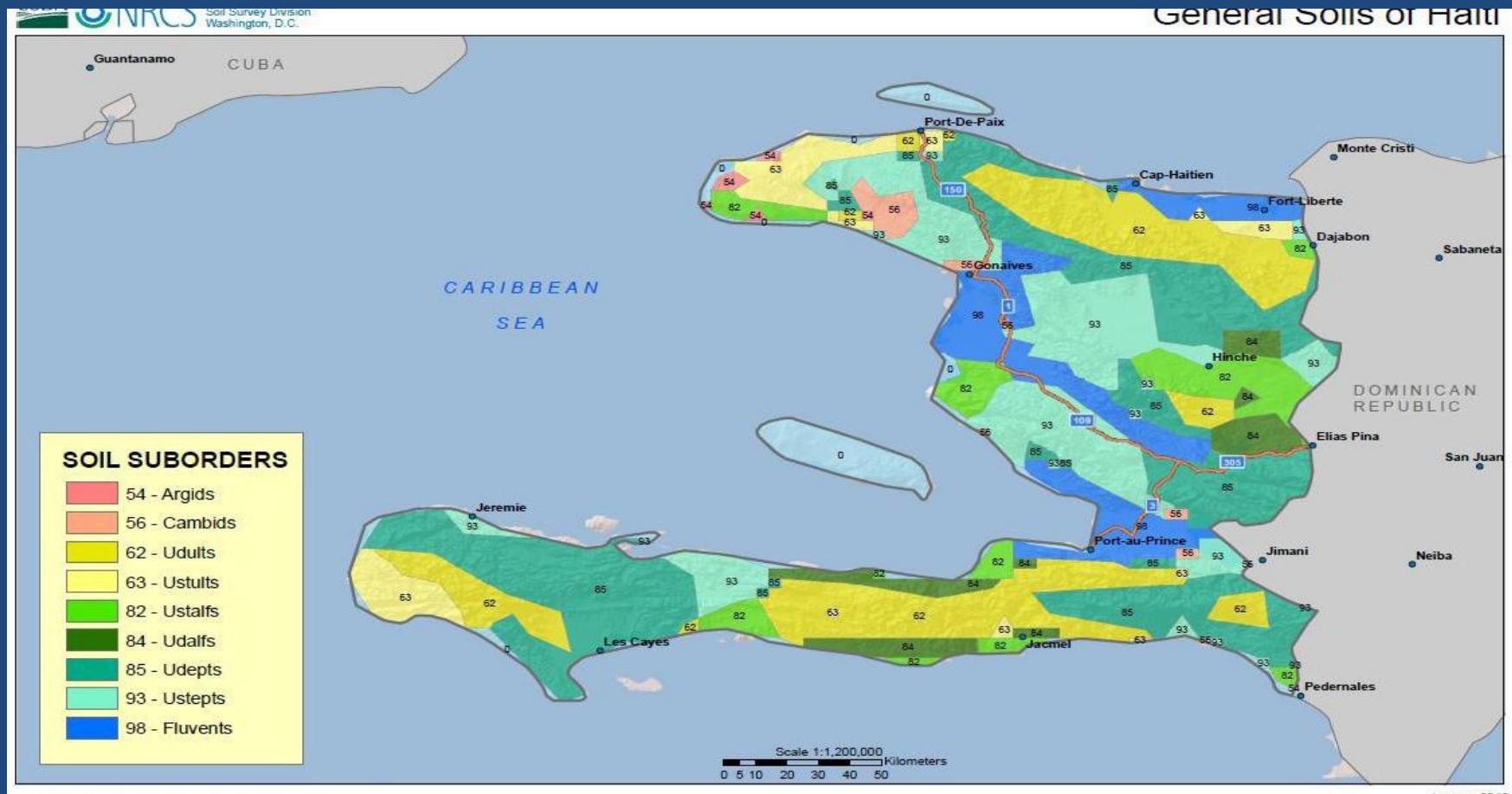


4. Soil map (BDPA SCETAGRI/MPCE, 1982)

- This soil classification study also covers the entire country (seven suborders)
- Very small scale with too much extrapolation
- Low level of precision because of limited field work – mostly based on 1978 aerial photos
- Strongly needs to be updated.



4. Haiti soil suborder map (USDA, 2010)



Source: Global Soil Regions map, USDA-NRCS, 2006.

Note: Map is displayed at a larger scale than the global map scale of 1:5,000,000.



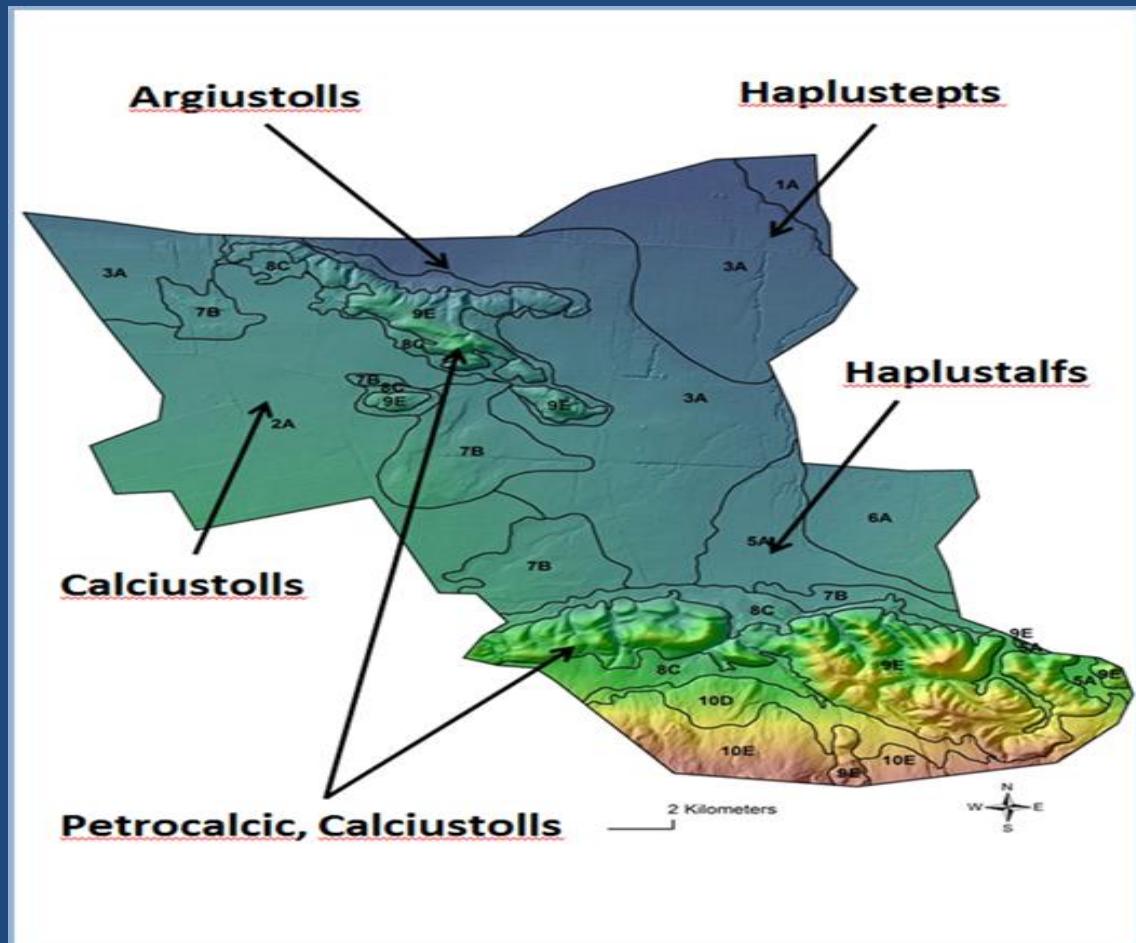
4. Pilot Soil Survey Objectives

- 1. Generate a detailed soil map (1:24,000) for a 3000 ha Pilot Study Area;
- 2. Combine Traditional Soil Survey and Digital Soil Mapping approaches;
- 3. Develop capacities in Haiti for conducting future soil surveys at national scale



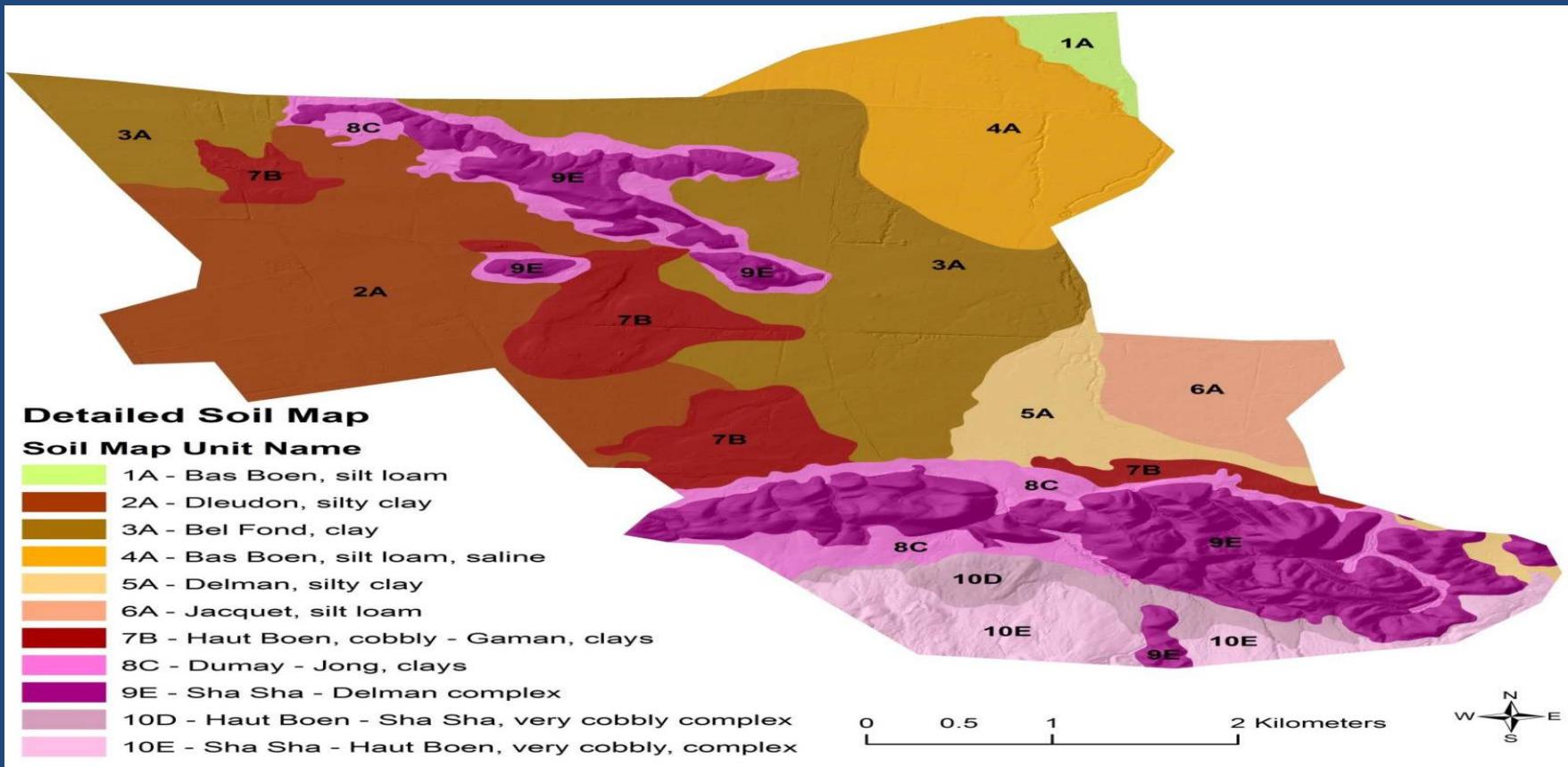
Pilot Soil Survey

3 Soil Orders
10 soil series





Results – Soil types





Conclusion

- Several soil studies realized
- Some soil surveys conducted and produced maps at small scale that provide general information
- Wide range of soil types
- Large range of orders and suborders
- Different levels of potentialities



Conclusion (cont.)

- Pilot soil survey: good example based on produced results (detailed data)
- Capacity building for staff members at MARNDR and FAMV at different levels
- In general, lack of detailed data for farmers, agricultural entrepreneurs, planners of soil utilization, engineers, environmental specialists and business that need accurate information on soils.
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Conclusion (cont.)

- **Systematic soil survey programs strongly needed in Haiti**
- **Establishment of a national soil survey program which can produce detailed data that can be used in several applied fields**
- **Government is looking for financial resources to support soil survey programs at a larger scale.**



Thank you very much
for your attention

Comments and Questions